



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/662,281	09/16/2003	Hong Ying Wang	50103-568	9789

7590 04/20/2004

McDermott, Will & Emery
600 13th Street, N.W.
Washington, DC 20005-3096

EXAMINER

UHLIR, NIKOLAS J

ART UNIT PAPER NUMBER

1773

DATE MAILED: 04/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/662,281

Applicant(s)

WANG ET AL.

Examiner

Nikolas J. Uhlir

Art Unit

1773

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 13-15 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 13-15 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 09162003
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: ____

DETAILED ACTION

Initial Notes

1. The examiner notes that claims 1-12 and 16-20 have been cancelled. Claims 13-15 are pending.

Priority

2. Applicant has not complied with one or more conditions for receiving the benefit of an earlier filing date under 35 U.S.C. 120 as follows:

An application in which the benefits of an earlier application are desired must contain a specific reference to the prior application(s) in the first sentence of the specification of in an application data sheet (37 CFR 1.78(a)(2) and (a)(5)). The specific reference to any prior nonprovisional application must include the relationship (i.e., continuation, divisional, or continuation-in-part) between the applications except when the reference is to a prior application of a CPA assigned the same application number.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pyzik et al. (US5780164) in view of Akagi et al. (US5557486).
5. Claim 13 requires a magnetic recording medium comprising: (a) a non-magnetic substrate having at least one major surface; (b) a sintered glass or glass-like layer

Art Unit: 1773

formed on said at least one major surface, said sintered glass or glass-like layer including an upper surface having an embossed pattern formed therein; and (c) a stack of thin film layers formed over said upper surface of said sintered glass or glass-like layer, said stack of layers including at least one ferromagnetic layer.

6. The examiner interprets "sintered glass or glass like layer" to simply require an underlayer that is amorphous, as amorphous materials are accurately described as "glass like." Further, the phrase "stack of layers" has been interpreted to mean "one or more layers, wherein at least one layer is a ferromagnetic layer."

7. Bearing the above interpretation in mind, Pyzik et al. (Pyzik) teaches a substrate for a magnetic disk. This substrate comprises a ceramic composite base (equivalent to applicants claimed substrate), a sublayer on the ceramic composite base, and a magnetic layer on the sublayer (see column 4, lines 30-45; and column 11, lines 49-65). Though the magnetic layer is not taught to be ferromagnetic, the use of ferromagnetic layers as magnetic recording layers in magnetic media is old and extremely well known. Thus, one of ordinary skill in the art at the time the invention was made would readily envision using a ferromagnetic layer as the magnetic layer of Pyzik.

8. Pyzik teaches that the sublayer can be made from a variety of materials, including glass, silicon, NiP, metal carbide, etc., and can be crystalline or amorphous (column 11, lines 49-65).

9. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize a glass sublayer or other amorphous material to form

the sublayer of Pyzik, as Pyzik recognizes the equivalency of these materials as suitable for forming sublayers under magnetic recording layers.

10. When a glass layer is utilized, the limitation of claim 13 that requires a glass layer is met. When an amorphous layer is utilized, the limitation of claim 13 that requires a glass like layer is met.

11. It is noted that Pyzik does not teach forming an embossed pattern in the sublayer, as required by claim 13. However, Pyzik does teach that the sublayer may be further treated to provide a textured surface either over the entire surface or a portion of the surface (column 11, lines 55-65). This texturing can be accomplished by mechanical, chemical, or optical techniques (column 11, lines 60-65).

12. Bearing the above in mind, Akagi teaches that servo-tracking patterns can be formed through embossing a pattern of pits into a glass substrate (column 5, lines 27-60). The servo-tracking pattern provides a means for a magnetic head to detect and control its location relative to the disk and other patterns (column 5, lines 27-37).

13. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to form an embossed servo tracking pattern as taught by Akagi in the glass or amorphous sublayer utilized by Pyzik.

14. One would have been motivated to make this modification in view of the teaching in Pyzik that the sublayer can be textured mechanically and the teaching in Akagi that glass layers can be embossed (a mechanical deformation process) so as to form a tracking pattern that allows the position of a magnetic head relative to the recording medium to be controlled.

Art Unit: 1773

15. Claim 14 is met as set forth above.

16. Claim 15 requires the glass or glass-like layer to be derived from a sol-gel layer and to include an embossed servo-tracking pattern formed therein. The limitations requiring a glass or glass like layer having an embossed servo-tracking pattern are met as set forth above. The limitation "derived from a sol-gel layer" is a process limitation in a product claim and is does not appear to be further limiting in so far as the structure of the product is concerned. Even though product claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). See MPEP § 2113. Thus, as the product of the prior art has the same structure as the product claimed by the instant application, the limitations of claim 15 are met.

Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nikolas J. Uhler whose telephone number is 571-272-1517. The examiner can normally be reached on Mon-Fri 7:30 am - 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul J. Thibodeau can be reached on 571-272-1516. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 1773

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Nju


Paul Thibodeau
Supervisory Patent Examiner
Technology Center 1700